Group_by()

Doses and Dollars

Exploring the relationship between insurance coverage and vaccination rates

Manahil, Andrew, Theresa, William

Why this?

Research Topic

What is the relationship between insurance coverage type and vaccination rates across different vaccines?

- Healthcare access isn’t equal
- Private Insurance, Medicaid, and Uninsured
- Vaccines are a key part of preventative care



Introduction to the Data

Summary Data Frames

- estimate_averages_vaccine: Calculates the overall sample size weighted average vaccination coverage percentage (estimate_average) for each unique vaccine

- estimate_averages_insurance: Calculates the sample-size-weighted average vaccination coverage percentage broken down by specific insurance types across each vaccine

Variable names

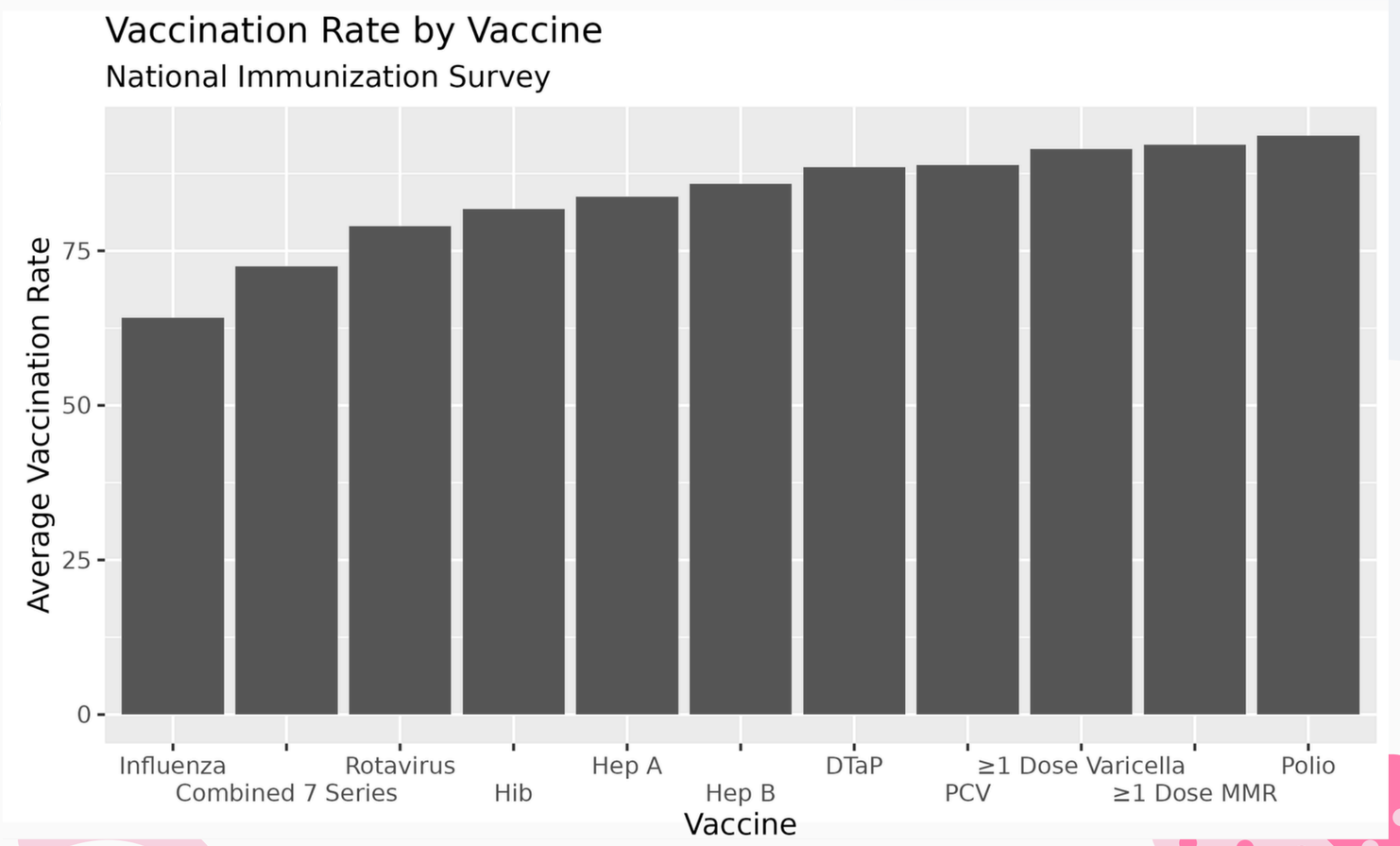
- Vaccine: different vaccine types

- insurance_type: type of insurance

- estimate_average:
  1) weighted average for each unique vaccine
  2) weighted average for each unique vaccine, insurance_type combo

EDA Part 1: Overall Vaccination Rates

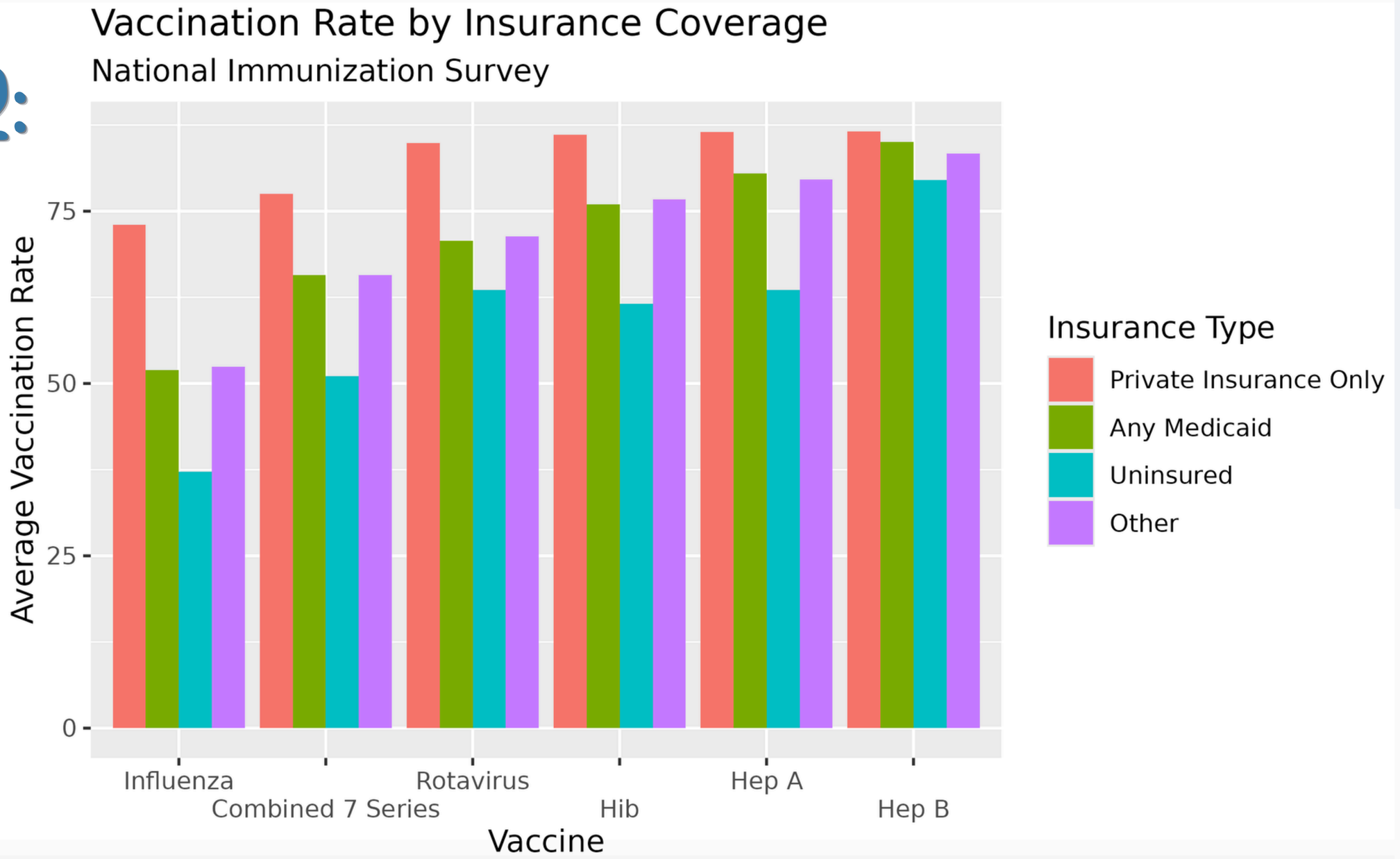
- Data set: Vaccination rates, 2016-19 cohort sampled across the U.S.
- Lowest rate: Influenza, 63.1%
- Highest rate: Polio, 93.3%
- Sample size: n = 63,449



EDA Part 2: Insurance coverage

Same 2016 - 2019 cohort
Data broken into two visualizations for ease of reading





Private > Medicaid > Uninsured

(For every vaccine!)

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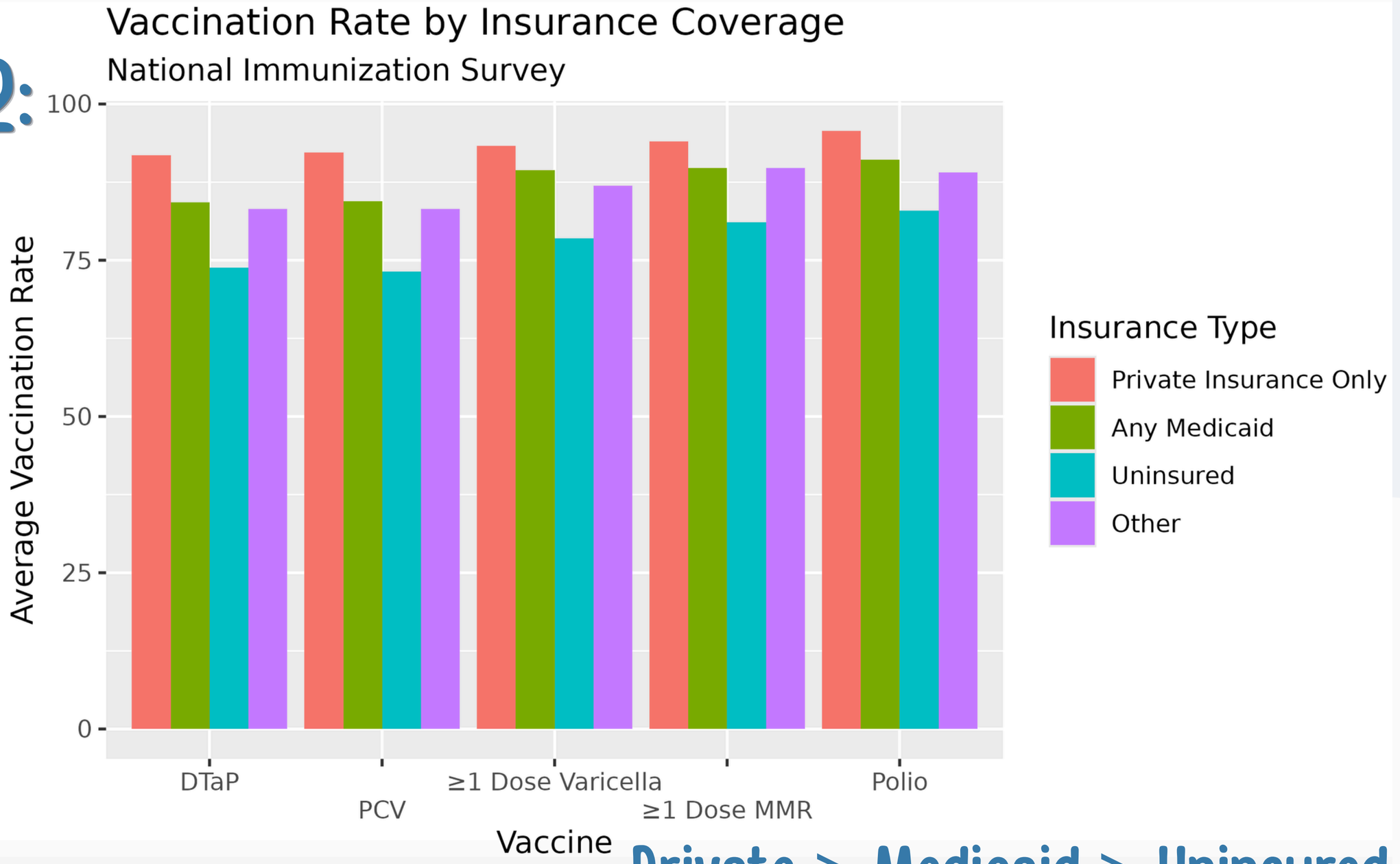

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Discussion + Conclusions

- Insurance coverage could influence peoples' willingness to get certain vaccines
- There are multiple confounding variables such as income, education, location, etc
- Future Direction: How other factors may overlap and exacerbate differences
- Future Direction: How have these numbers changed alongside politics especially since 2020

Thank You